

DirectDrive™ Owner's Guide



Jasmine

Jasmine DirectDrive™

Owner's Guide



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Welcome to Jasmine

Thank you for purchasing a DirectDrive™ from Jasmine Technologies, Inc. You now own one of the finest SCSI hard disks available for the Macintosh — one designed and built to give you high performance and years of reliable service. All you need to begin using your DirectDrive is included with your drive (except a Macintosh!).

Jasmine is committed to bringing you high-quality products at affordable prices. We are confident that after using a DirectDrive you will agree that there is no better hard disk value available for the Macintosh. In fact, we are so confident that we offer a money-back guarantee during the first thirty days as well as a two-year warranty.

How to contact us

Our commitment to high quality includes our service as well as our products. For customer service, call (415) 282-1111 from 8:00 AM to 5:00 PM (Pacific Time) on Monday through Friday. Our customer service representatives will be able to check on the status of orders that you have already placed. For sales, call 800-DIREC 2 U. Our sales staff would be delighted to tell you about our products or to take an order.

For technical support, call (415) 282-9555 from 9:00 AM to 5:00 PM (Pacific Time) on Monday through Friday. Our technical support staff stands behind all our products with accurate, timely, and courteous answers to your questions. And if we don't know the answer, we'll do our best to find out!

An excellent way to provide us with feedback is through our technical support electronic bulletin board system, which is on-line 24 hours a day. This BBS is also a means for us to distribute updated versions of our proprietary software. The BBS number is (415) 648-1269. It is a modem-only line; set your modem to either 300, 1200 or 2400 baud.

Please address written correspondence or shipment to:

Jasmine Technologies, Inc.,
1740 Army Street
San Francisco, CA 94124.

A word of thanks

Once again, thank you for joining Jasmine's world of quality products at affordable prices. Enjoy your DirectDrive and keep in touch with us. We like to hear from our customers, as your suggestions help us continue to be a leader in the Macintosh market. We have many new and exciting products in the works.

About This Guide

This guide will tell you what you need to know to use your DirectDrive. It's a good idea to read at least Chapter 1 to get the basics and Chapter 4 to know how to care for your drive. The following overview will guide you to other topics of interest.

We have created a separate Jasmine Hard Disk Encyclopedia to cover topics relevant to any hard disk drive. If the DirectDrive is your first hard disk, plan to take some time looking through the Encyclopedia. It includes essential information about copying files, using folders, backing up, and configuring your system. Experienced hard disk users — as well as novices — will be interested in the chapters dealing with technical aspects of hard disks, useful utilities, troubleshooting, and file recovery.

Both guides assume that you are already familiar with basic Macintosh concepts such as pointing and clicking the mouse, choosing commands from menus, opening applications and documents, and copying files. If you have just bought a Macintosh and a DirectDrive, we suggest that you first go through the tutorials in the Macintosh Owner's guide.

An overview

The DirectDrive Owner's Guide is organized as follows:

Chapter 1, "Getting Started," covers the essentials: setting up your system, starting it up, and shutting it down.

Chapter 2, "Using Other SCSI Devices with your DirectDrive," discusses the issues involved in daisy-chaining multiple SCSI devices. Read this chapter if you have another SCSI device.

Chapter 3, "DirectDrive Features," mentions some of the features we have designed into the drive.

Chapter 4, "Taking Care of your DirectDrive," has tips on operating, maintaining, and caring for your drive.

Chapter 5, "Software Included with your Drive," briefly describes the software we provide on the hard disk.

Chapter 6, "Jasmine DriveWare," provides instructions for the software that is both on your drive and on the *Jasmine DriveWare* floppy disk. Instructions for partitioning your drive, installing a new disk driver, and formatting your drive are in this chapter.

Appendix A discusses radio and television interference. The other four appendixes cover Jasmine's policies on software upgrades, our two-year limited warranty, how to return your drive for servicing, and our thirty-day money-back guarantee.

Acknowledgments

This guide was written, edited, and composed by Jackie Taylor, Gordon Smith, Mark James, and Thom Benge using an Apple Macintosh™ and an Apple LaserWriter NTX™.

We are indebted to Al Aigus-Sinerco, Nell Anders, Arthur Britto, Alan Brunner, Dave Cohen, Christian Jacobsen, Marcia Mason, Keith Moreau, Michael Shapiro, Rob Schmidt, Bryan Speece, Tim Standing, and Kirk van Druten for their technical and editorial contributions. George Spicer Bredehoft deserves our special thanks for his invaluable technical and artistic contributions.

And, of course, special thanks to Apple for giving us the Macintosh.

Getting Started

This chapter provides information on unpacking your DirectDrive, setting up, starting up the system, using the drive, and shutting down. If you are not yet familiar with hard disks, it's a good idea to read at least this chapter to get started.

Unpacking

In addition to this DirectDrive Owner's Guide, the shipping carton should contain the following items:

- The DirectDrive
- One AC power cord
- One 25-50 pin SCSI cable
- One 800K *Jasmine DriveWare™* floppy disk
- One 800K *Jasmine DriveTools™* floppy disk
- One Jasmine Hard Disk Encyclopedia
- An invoice
- Foam packing materials

If any of these items is missing, please contact Jasmine Customer Service at (415) 282-1111.

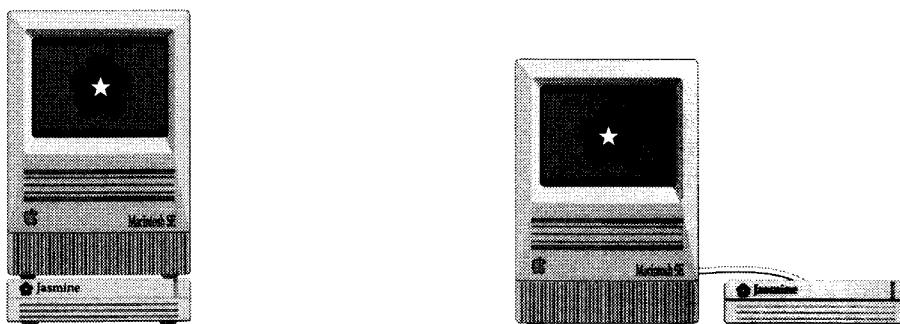
We strongly recommend that you save the shipping carton, all packing materials, and the invoice. Our carton and packaging were carefully designed to protect the DirectDrive from rough handling, in case it ever needs to be transported.

Setting up

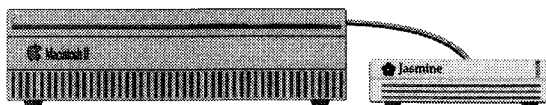
The DirectDrive is ready to use as soon as it is set up. If the DirectDrive is the only SCSI device that will be attached to your Macintosh, just follow these steps. The Macintosh must be turned off and unplugged.

- Position the DirectDrive and Macintosh where you want them.

The DirectDrive is designed to sit underneath the Macintosh (unless you have a Macintosh II!). However, you can also set the drive to the side of the Macintosh. Since the Macintosh power supply could interfere with proper operation of your drive, we recommend always placing the drive to the right of the Macintosh, away from the power supply. With the appropriate cables, you can place it on the floor or several feet away.



Positioning the DirectDrive with the Macintosh Plus or SE



Positioning the DirectDrive with the Macintosh II

Make sure that the drive has adequate space for ventilation under it — don't set it on carpeting. See Chapter 4, "Taking Care of Your DirectDrive," for further information on operating conditions.

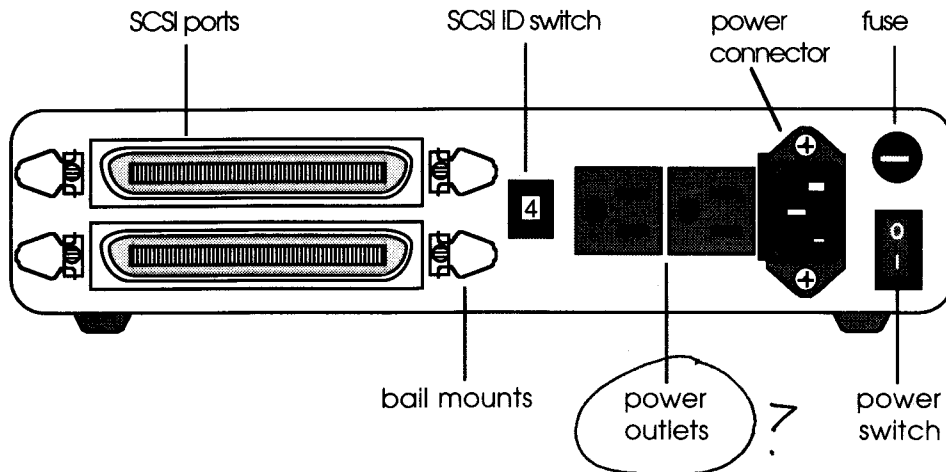
?

- Plug your Macintosh Plus or SE into one of the power outlets on the rear panel of the DirectDrive.

The power outlets on the rear panel of the DirectDrive are protected against voltage surges, so your Macintosh Plus or SE will be safer if it is plugged in there rather than in a standard, unprotected outlet. The outlets on the DirectDrive turn on and off with the drive's power switch.

- Connect the SCSI cable between the Macintosh and the DirectDrive.

Connect the 25-pin end of the SCSI cable to the SCSI port on the back of the Macintosh. Connect the 50-pin end to either SCSI port on the rear panel of the DirectDrive. Carefully push the cable all the way in. Clip the small wire grabbers (the "bail mounts") into the holders on the connector to secure the cable firmly to the drive.



The rear panel of a DirectDrive

- Connect the power cord to the DirectDrive and plug it in.

Connect the power cord to the power connector on the rear panel of the DirectDrive. Plug it into a grounded outlet. (The drive can operate with 110-volt AC power of either 50 or 60 cycles per second.) The DirectDrive was designed to be electrically grounded. Do not defeat the purpose of the grounding pin with an adaptor.

Do not plug your DirectDrive into a 200V outlet without contacting us first, or you may damage it. If your DirectDrive has power outlets, it was not designed to handle 220V operation. The DirectDrives that were made for 220V have no power outlets. See Chapter 4, "Taking Care of Your DirectDrive."

- Make sure that the number shown in the SCSI ID switch on the rear panel is either 0, 1, 2, 3, 4, 5, or 6.

If the DirectDrive is the only SCSI device you are using, any of these numbers will work. To use other SCSI devices in addition to the DirectDrive with your Macintosh, be *sure* to read Chapter 2, "Using Other SCSI Devices With Your DirectDrive," before continuing. For additional information about SCSI ID numbers, see Chapter 5, "A Technical Peek Inside," in the Jasmine Hard Disk Encyclopedia.

Your drive is ready to go! The next section briefly describes the basics of using your system.

Starting up your system

If your drive is cold, leave plenty of time for it to come to room temperature before turning it on. Then follow these two steps:

- Turn on the DirectDrive and wait twenty seconds.

The power switch is on the rear panel, all the way to the right (if you are facing the back of the drive). The international symbols of "0" for *off* and "—" for *on* are printed on the switch. When you turn on this switch, the green light on the front of the DirectDrive should come on, indicating that the drive has powered on properly.

Waiting for twenty seconds allows the drive to reach full speed, warm up, and perform its internal diagnostics. If your drive has been switched off overnight, let it run for a minute or so before turning on your Macintosh.

- Turn on the Macintosh.

The familiar icon of a disk with a blinking question mark quickly becomes a "happy Mac," indicating that the Macintosh is starting up from the DirectDrive. You should also see the light on the front of the DirectDrive flash red, indicating that the Macintosh is accessing the drive. Within a few seconds, the desktop appears with the DirectDrive icon in the upper-right corner of the screen. This indicates that the DirectDrive is the current startup disk and is ready for use. (If you are starting up from another disk, the DirectDrive icon appears on the desktop below the icon of the startup disk.)

If your Macintosh doesn't start up properly from the DirectDrive, check all the connections and make sure that everything is turned on. If the problem persists, consult Chapter 7, "Troubleshooting," in the Jasmine Hard Disk Encyclopedia.

On the desktop

Your screen now displays the DirectDrive icon on the Macintosh desktop.

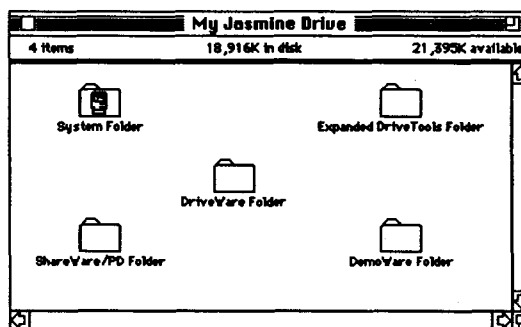


DirectDrive™

The number in the icon is the SCSI ID number of the drive, determined by the SCSI ID switch on the rear panel. Any other SCSI devices should be set at different ID's. See "SCSI ID numbers" in Chapter 2 for details.

- Double-click the DirectDrive icon to open a window displaying the files and folders already on the drive.

Chapter 5, "Software Included With Your DirectDrive," briefly describes the contents of these files and folders. We recommend that you make copies of all the software on the drive. (Yes, it's time-consuming. *Do it anyway!*) Chapter 3, "Backing Up," in the Jasmine Hard Disk Encyclopedia discusses the importance of backing up and various backup methods.



Using your DirectDrive

You're ready to start enjoying the speed and capacity of your DirectDrive! Browse around in the Shareware/PD and DemoWare folders and try out some of the programs. Start copying your own applications and documents onto the drive and put it to work.

If the DirectDrive is your first hard disk, it's a good idea to read at least the first three Chapters of the included Jasmine Hard Disk Encyclopedia before using the drive extensively.

Shutting down

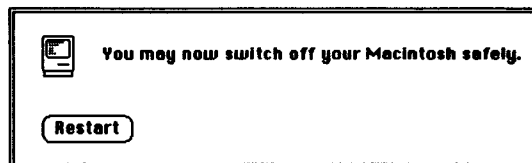
When you're finished using your Macintosh and DirectDrive, don't just turn them off! First return to the Finder, and choose Shut Down from the Special menu.



The drive heads will automatically park when the drive is turned off. Please don't unplug the drive while the system is on. Choosing Shut Down updates the invisible Desktop file so that changes to the desktop (like the size and location of the windows) are saved on any disks. If you simply turn off the Macintosh and DirectDrive, important information might not get saved.

When you choose Shut Down, the following dialog box appears. (If you are using a Macintosh II, the Macintosh will switch off.)

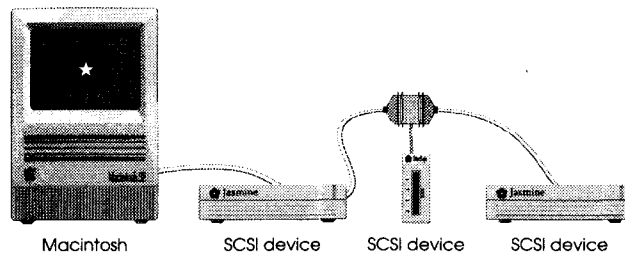
Turn off the Macintosh first. If you will be using your DirectDrive again within a few hours, we recommend leaving the drive on. (When you want to resume, just turn on the Macintosh; it should start up again from the DirectDrive.) If you don't plan to use your DirectDrive again for several hours, it's probably best to turn it off. (However, it won't harm the drive to leave it on continuously.)



Using Other SCSI Devices With Your DirectDrive

Daisy-chaining

Up to seven SCSI devices — hard disks, tape units, printers, or whatever — can be connected to a Macintosh in a “daisy-chain” arrangement.



This is why the DirectDrive, like most SCSI devices, has two 50-pin SCSI ports. To connect the first external SCSI device to your Macintosh you need a SCSI cable with a 25-pin connector on one end and a 50-pin connector on the other. To attach additional SCSI devices to the chain you need cables with 50-pin connectors on each end. Cables are available through authorized Apple dealers or Jasmine.

Avoid using too much cable. The entire chain shouldn't exceed twenty feet (six meters). Excessive cable length can cause unreliable operation of the system. It is best to use the same brand or type of SCSI cables for every link in the chain. Each brand has different conductive characteristics which could, in rare cases, cause intermittent interference or an electrical echoing effect. This, in turn, can result in troublesome data transfer irregularities which can be difficult to diagnose.

In addition to requiring the proper cables, using multiple SCSI devices requires you to be concerned with SCSI ID numbers and SCSI terminators. You may wish to refer to Chapter 5, “A Technical Peek Inside,” of the Hard Disk Encyclopedia to acquire a deeper understanding of these concepts before continuing.

When you use multiple SCSI devices, you need to follow two rules on SCSI ID numbers and termination. If you do not, it is possible that you could damage your Macintosh or lose information on your hard disk.

SCSI ID numbers

The first rule of daisy-chaining involves SCSI ID numbers:

All devices in a daisy-chain must have different ID numbers so that they do not interfere with each other. Starting up with two devices set to the same ID number may freeze the system and information on either or both devices with the same number may be corrupted.

Acceptable SCSI ID numbers for SCSI devices, or "peripherals," are from zero to six. (The Macintosh itself has a SCSI ID number of seven.) Never use numbers seven through nine for SCSI devices. An ID of seven will probably result in either a "sad Mac" or seven DirectDrive icons. A setting of eight or nine will default to zero or one. By convention, the startup device is the one with the highest ID number.

4 Some devices have factory set SCSI ID numbers. Others can be set to any ID by switches (DIP, jumpers, etc.) or software. Consult the manuals for other devices regarding their SCSI ID's. Jasmine external hard disk drives have a SCSI ID switch on the back that displays the ID number. The ID number is also on the Jasmine hard disk icon on the desktop. You can change the ID by shutting all devices down, pressing the ID switch, and restarting.

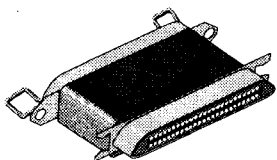
SCSI ID numbers determine the priorities of SCSI devices at startup. When you switch on the Macintosh, it first checks any inserted floppy disks. Next, on Mac IIs and SEs, it checks any Startup Device selected in the Control Panel. Finally it checks the devices connected to the SCSI port, in order of decreasing ID number from six to zero. The Macintosh will start up from the first device in this sequence that has a System and Finder.

The physical order of devices in the chain does not have to be related to their ID numbers. However, a specific arrangement that we recommend is as follows: Use your internal drive or first hard disk as the startup device. Then chain other devices to it in order of decreasing ID number.

If you have non-Jasmine hard disk drives (heaven forbid!), it's a good idea to label each drive with its SCSI ID number.

The terminator

The second rule of daisy-chaining involves SCSI terminators:



If there is only one SCSI device (not including the Macintosh) in a system, it must be terminated.

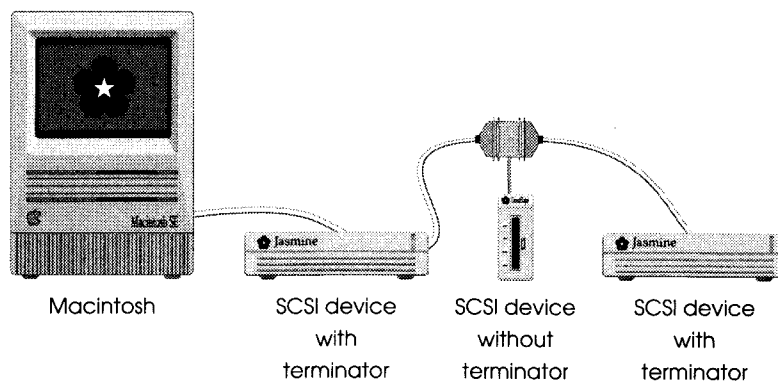
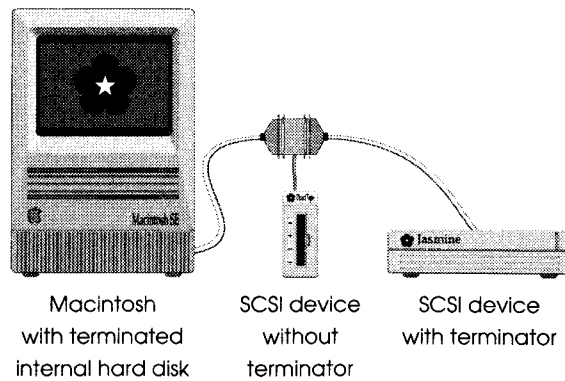
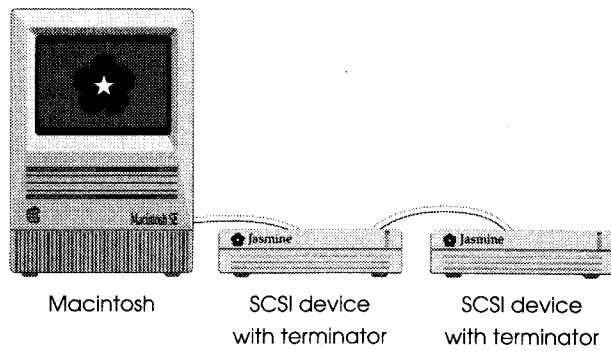
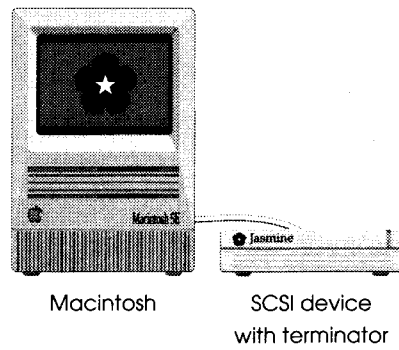
If there are two or more SCSI devices in a daisy-chain, the first and last one must be terminated.

Never have more than two terminators anywhere in the chain of SCSI devices. The chain should have a terminator at the first device connected to or installed in the Macintosh and at the physical end of the chain — and nowhere else. Internal hard disk drives are normally internally terminated, and a few other SCSI devices are internally terminated.

Terminators are resistors that regulate the electrical signals at both ends of the chain. You can damage your Macintosh and your other SCSI devices if there are more than two terminators. If there is more than one SCSI device and only one terminator, the data reliability could suffer. If there is no termination, none of the devices will work.

Knowing where terminators are in other devices can be confusing. Some SCSI devices have a terminator built in; others do not. Built-in termination may or may not be removable. Consult the manuals for other SCSI devices to determine whether they have termination and how to remove it if necessary. Practically all SCSI cables are unterminated. Terminator packs like the one pictured here are available through Jasmine or your authorized Apple dealer to place on the appropriate 50-pin SCSI port.

The DirectDrives have factory installed removable termination. If you need to remove the termination, first remove the panel that says "Pull tabs and lift door to open" on the underside of the case. Inside there is either a resistor pack or three socketed terminating resistors — small, narrow chips, each of which has a single row of leads. Make a note of the orientation of these resistors as indicated by the black lettering on one side. *It is critical that they be replaced in the same direction.* To remove them, gently pull them out with a small pair of pliers or pry them out with a screwdriver. Be careful not to break them or let them fall into the drive box. Put them in a safe place and replace the panel.



Examples of proper termination arrangements

Using the DirectDrive with the LaserWriter NTX

A DirectDrive can be used with Apple's LaserWriter NTX™ to store "downloadable" fonts. With other LaserWriters such as the LaserWriter Plus or NT, information about a downloadable font must be transmitted to the LaserWriter over the network, slowing down the printing process. In addition, the LaserWriter Plus or NT must calculate each font's curves and translate them into individual letters at the resolution of 300 Dots Per Inch, or DPI, every time the downloadable font is used. All of Apple's LaserWriters print at 300 DPI.

The NTX allows you to connect a hard disk to the LaserWriter with a standard SCSI cable. Information about the downloaded fonts can be stored in this dedicated hard disk and transmitted via SCSI to the LaserWriter. A hard disk used on an NTX must be initialized with the Apple LaserWriter Font Utility software, and is dedicated solely to font storage and caching. The term "caching" refers to the hard disk's storage (in RAM) of the 300 DPI calculations of each letter in each font size, so the LaserWriter does not have to perform these calculations each time it prints.

20 percent of the dedicated hard disk is used for font storage, and 80 percent is used for caching. Usually a 20 Megabyte hard disk is sufficient.

Using the LaserWriter Font Utility software

Make sure that the LaserWriter to which you are attaching the Direct Drive is selected in the Chooser.

- Double click the LaserWriter Font Utility icon.

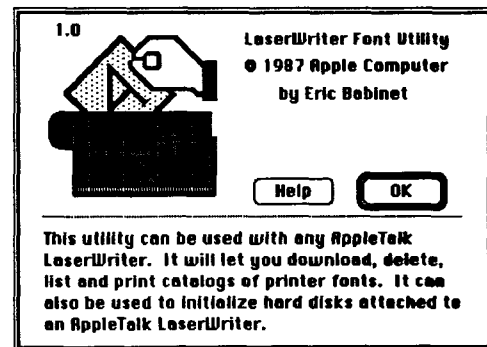


LaserWriter Font Utility

An introductory dialog appears:

- Click OK.

The Font Utility will check the characteristics of the LaserWriter currently chosen with the Chooser Desk Accessory.

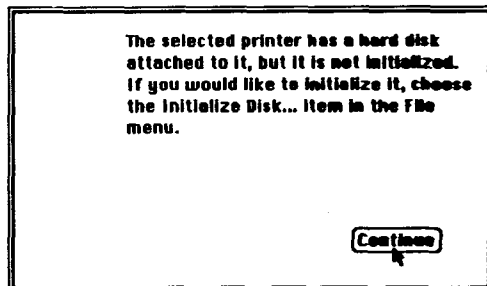


If the DirectDrive has not been previously initialized for use with the LaserWriter NTX, you will see this dialog:

- Click Continue to dismiss this dialog.

The menu bar appears.

Refer to the next section for step-by-step instructions on initializing.



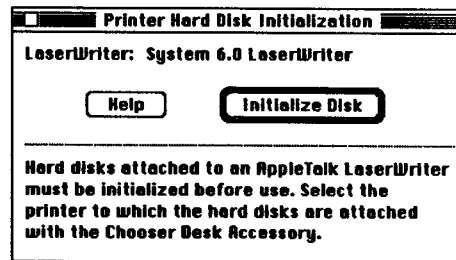
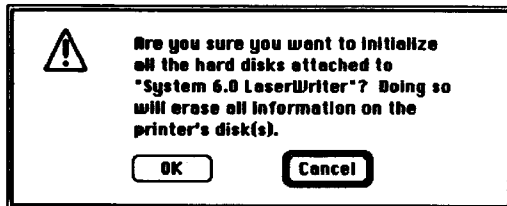
- When you are finished using the LaserWriter Font Utility, choose Quit from the File menu to return to the Finder.

Initializing your Direct Drive for use with the LaserWriter NTX

- Choose Initialize Printer's Disk from the File menu of the LaserWriter Font Utility.

A dialog appears:

- Click Initialize Disk.

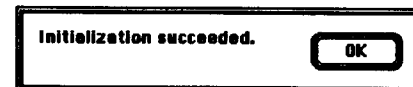


This dialog box appears, giving you a chance to change your mind.

If you click OK, everything on all hard disks attached to the LaserWriter will be erased.

- Click OK if you are sure you want to proceed; otherwise, click Cancel.

Initializing takes several minutes. A dialog appears when the process is complete:



- Click OK.

You can proceed to download fonts to the DirectDrive using the LaserWriter Font Utility or another font downloader program, or choose Quit from the File menu to return to the Finder.

DirectDrive Features

SCSI ID switch

The SCSI ID switch on the rear panel of the DirectDrive makes it easy to read and reset the drive's SCSI ID number. The switch displays the ID number for quick and easy reference. Simply pressing either button when the drive is turned off changes its SCSI ID. This makes it easy to use your DirectDrive with other SCSI devices.

Surge protection

To protect the electronic components in your DirectDrive against damage by power fluctuations, we have built surge protection into every DirectDrive. When a major fluctuation in the line voltage occurs, the surge protector absorbs much of that energy as quickly as possible. (Our protection circuit provides full three-way protection: hot to ground, neutral to ground, and hot to neutral. Warning: if an unusually large power surge causes sparks, you should immediately unplug all devices from their outlets.) Surge protectors must have a proper fuse. Never short the removable fuse or use a fuse with an improper rating. You can protect your Macintosh Plus or SE from power surges by plugging its AC power cord into one of the outlets in the back of the DirectDrive instead of a standard outlet. Since LaserWriters draw more power, they should be plugged into other outlets.

Power outlets

Two power outlets on the rear panel allow you the convenience of plugging the Macintosh into the DirectDrive. You should still switch on the drive several seconds before switching on the Macintosh. As a bonus, whatever you plug into the DirectDrive is surge protected. If you already have surge protection, you can either place your surge protector on another device or allow it to remain in the circuit, adding extra protection to your system.

Indicator light

The toggling indicator light provides information about the status of the drive. The light flashes green when the drive is powered on, and red when the Macintosh is accessing the drive.

Fuse

The DirectDrive is protected by a standard removable fuse. It is easily accessible from the rear panel.

Fan

Jasmine tested many different types of fans before selecting the extremely quiet ball-bearing fan used in the DirectDrive. (The cheaper alternative — a sleeve bearing fan — may seem quiet, but after a year it will slowly get louder and more noticeable.) The design we used moves ample quantities of air to cool the inside of the box adequately. The box will normally get warm; however, the fan is designed to maintain temperatures inside at a reasonable operating level.

Air filtration

The ventilation holes on the underside of the DirectDrive are designed to allow the fan to draw air into the case. The air filter prevents dust accumulation inside the drive, which can shorten the lifetime of the switches, the fan, the drive, and the electronic components. See Chapter 4, "Taking Care of Your DirectDrive," for instructions on the proper care and replacement of the filter.

Removable panel

A removable panel underneath the DirectDrive allows easy removal of the SCSI terminators without opening the case. For details about SCSI terminators, see Chapter 2, "Using Other SCSI Devices With Your DirectDrive," in this guide.

Connectors and cables

The SCSI connectors on the DirectDrive are designed for long life. They have been plated with thirty microinches of gold, twice the standard minimum coating used in lower quality components. Any standard cable can be used; however, if possible, choose a cable that can be held in place with the bail mounts on the drive. (The bail mounts are the small metal clips on each end of the SCSI ports.) We recommend using only Jasmine cables to ensure optimal performance.

Taking Care of Your DirectDrive

Handling the drive

The DirectDrive is a precision-engineered mechanism which should be treated gently, especially when it's operating. (The heads could scratch the surface of the disk and damage it.) Don't jar or move the drive when it's on, or handle it roughly when it's off.

Transporting the drive

Use the same loving care to transport your DirectDrive that you would give your Macintosh. As long as you are not shipping it or checking it as baggage, you can carry it in a well-padded carrying case. If you dare to ship or check it, we strongly recommend using our original shipping carton and packing materials, which were designed to protect the drive against the rough handling it's likely to encounter. *Never* allow your DirectDrive or Macintosh to be X-rayed during security checks.

Using the power outlets

The wiring of the power outlets is designed primarily for devices with low power consumption such as Macintoshes, ImageWriters, and modems. *Due to the higher power requirements of the Apple LaserWriter, we recommend that you connect it to another outlet.* Do not unplug the drive while either it or the Macintosh is on.

Replacing the fuse

The DirectDrive uses standard fuses similar to automobile and appliance fuses. It comes with a five-amp fuse. The drive by itself requires a fuse rated at least 1.5 amps. If a Macintosh is plugged into one of the outlets, a fuse rated at least three amps is required. Using the minimum fuse rating required will provide a safer margin for error in case a short circuit occurs. The power supply inside the DirectDrive is fused separately and will protect itself. Never use "slow blow" fuses, as they will tolerate much higher amperage than their rating indicates. Generally the fuse rating should match the work load with which you are using it.

Caring for the cables

Avoid twisting or kinking the SCSI cable. Set up the DirectDrive to provide ample room in the rear for the cable to be comfortable. Bending the cables —especially at the two ends — may eventually cause problems.

Using the drive internationally

Do not plug your DirectDrive into a 220V outlet without contacting us first, or you may damage it. The built-in surge protection circuitry, which should protect your drive from even a lightning strike, is designed for continuous operation only at 110 volts. Operating the drive at other voltages such as 220 volts can cause the surge protectors to overheat. Though the fuse will eventually blow, the surge protectors are likely to be seriously damaged.

We can instruct you how to modify your DirectDrive, or you can send it to us and we will adapt it for the country in which you need it to work. The power supply in the DirectDrive is easily convertible to 220 volts, but the surge protectors are not and have to be removed. The DirectDrives designed for 220V do not have outlets.

Ventilating the drive

Don't place your DirectDrive over carpeting or any other material which might block the ventilation holes located underneath the drive. The drive requires good airflow in order to operate at the proper temperature. If you must set the drive over carpeting or other soft material, place a sheet of stiff material underneath it to ensure proper airflow.

Replacing the air filter

Check the condition of the air filter on the underside of the DirectDrive regularly. If it becomes clogged, overheating problems may result. The filter is replaceable, but unless you expose it to excessive smoke or heavy grease fumes, replacing it should not be necessary. It's best to avoid smoking in front of the DirectDrive, as the smoke will eventually clog the filter. If you need to replace the filter, first remove the small panel that says "Pull and lift to replace filter". Remove the old filter, place the new filter inside the panel, and put the panel back on the drive.

Operating conditions

Avoid operating your DirectDrive under conditions of excessive heat, cold, or humidity. Generally, a good operating environment is 55° to 95° Fahrenheit with a humidity of less than 80%. An air-conditioned environment is best if you are operating the Macintosh in a hot, humid climate. For more information, please refer to the technical specifications for your DirectDrive.

If your drive has been exposed to extreme cold, allow plenty of time for it to slowly warm to room temperature before turning it on. This will prevent damage to the drive from condensation.

Our surge protectors should protect your drive from unstable voltage conditions. As a precaution, unplug your drive and Macintosh during electrical storms.

Cleaning the case


Unplug the DirectDrive and clean its case with a damp cloth and mild soap when necessary. Avoid using strong chemicals — especially hydrocarbons, petroleum distillates, and strong substances like lye.

Software Included with your Drive

This chapter briefly describes the software already on your DirectDrive. The directory window for your drive should display four folders: a System folder, a DriveWare folder, an Expanded DriveTools folder, a DemoWare folder, and a Shareware/PD folder.

Although we have provided backup copies (on floppy disks) of *some* of these programs, we recommend that you make copies of all the software on the drive. Chapter 3 in the Jasmine Hard Disk Encyclopedia discusses the importance of backing up and various backup methods.

The System folder

The System folder on your drive contains a System, Finder, and other system-related files. These files are periodically updated and released by Apple. You can find out the version by choosing About the Finder from the  menu when you are in the Finder.)

The System and Finder in the System folder are two of the most important files — they make it possible for your Macintosh to start up from the drive. Chapter 4, “Configuring Your System,” in the Jasmine Hard Disk Encyclopedia discusses these files and tells you how to use the Font/DA Mover to install and remove fonts and desk accessories.

The DriveWare folder

This folder contains Jasmine's proprietary hard disk management software. Please refer to Chapter 6, “Jasmine DriveWare” for a complete discussion of its extensive capabilities and detailed instructions on its usage.

The Expanded DriveTools folder

This folder contains several programs you will find quite useful when using your hard drive. *All of these utilities are proprietary or commercial software packages. You may make backup copies but should not distribute any of this software to others.*

- Redux™ is a reliable, sophisticated, hard disk backup utility. Redux provides powerful file selection methods plus a powerful scripting language.
- Symantec Utilities for Macintosh (SUM) is a comprehensive disk utility package. It contains utilities for sophisticated file recovery, disk optimization, hard disk partitioning, file editing, virus protection, etc.

- DEScriptor™ is Jasmine's file encryption utility. It uses a very fast implementation of the well-known and super-secure DES method to protect your sensitive or confidential information.

The Jasmine DriveTools Guide has complete instructions for Redux, SUM, and DEScriptor.

The DemoWare folder

The demonstration packages in this folder offer you the opportunity to examine some of the best software available for the Macintosh. We have included a sample for each of several functionally distinct areas, such as word processing and data management. Some of these packages are crippled versions; that is, they are fully functional except for the ability to save a document or print properly. Others are rolling (self-running) demos of the software. Though they are not functional programs, you should be able to understand what each package has to offer.

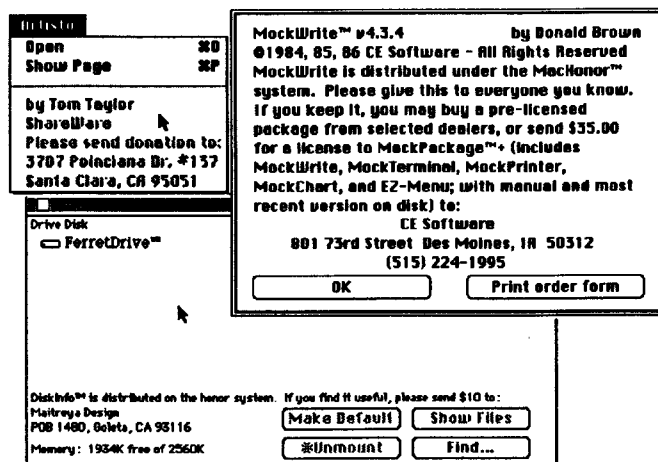
We encourage you to freely distribute these demos to others.

The Shareware/PD folder

As a service to you, we have placed a library of current shareware and Public Domain software on your drive. These programs are organized into folders according to their primary purpose. We test as much of this software as possible. Since we are not the authors, we cannot provide instructions for the programs. With some experimentation, you should be able to discover how to properly use them. We hope you will find some that are useful or fun or even both!

If you want to learn more about these programs and obtain other similar software, we suggest joining a local user group. User groups can be an excellent source of information about Macintosh hardware and software. User groups often arrange for group purchases of Macintosh products and make presentations of new products.

It is important that you understand the difference between shareware and public domain software. Programs that have been placed in the public domain by their authors are yours for free with no strings attached. Shareware programs, on the other hand, carry an obligation under the "honor system" to pay the author if you want to keep them. You can tell the difference if there is a request for a fee in one of the program's windows.



The concept of shareware was created a few years ago as an alternative form of software distribution. Essentially, the shareware author encourages people to copy his program and give it to others. Users are allowed to keep the program for a limited amount of time. Then, if they find it useful, they are asked to send the author a fee. (Sometimes this fee registers the user so that he or she is entitled to documentation, support, or notification of upgrades.)

Otherwise, the user is obligated to erase the program from the disk.

Shareware offers significant advantages over commercial software: prices are usually much lower, there is no copy-protection, and the user is given the opportunity to try a program before purchasing it.

There is a rich assortment of shareware programs available for the Macintosh. However, the whole shareware concept is being threatened by the failure of users to send in shareware fees. *Please support shareware.* It is a valuable source of Macintosh software. If shareware programmers are not supported, they will be forced to use a more conventional distribution channel — commercial software — resulting in higher prices to users. Even worse, some of these programmers may stop writing programs for the Macintosh altogether. That would be most regrettable, as software is the lifeblood of the Macintosh.

Do not assume that because you have paid for your drive, you are now a registered owner of the shareware on the drive. We have loaded the software onto the drive as a service to you. Unlike the public domain software, the shareware is *not* yours to keep for free. If you decide to keep any of these shareware programs, be sure to send the appropriate fee to the author.

We have done our best to determine that all the software we place in the PD/Shareware folder is either in the public domain or is shareware. Please notify us if you feel that we have included a program that does not belong within these two categories. We cannot guarantee that all the software is free of bugs, although we have tested as much of it as possible. We do not sell the software in this folder.

Shareware authors, please note: If you have written a program which you would like distributed as shareware on our drives, feel free to send it to us for review.

Jasmine DriveWare

This chapter describes Jasmine's proprietary software utilities for managing your drive. One is an application named Jasmine DriveWare and the other is a Control Panel document (or "cdev" in technical jargon) called Jasmine.



Jasmine DriveWare



Jasmine

These utilities provide many features that the "power user" will appreciate. They are also useful if you are having problems with or want to test your drive. You may never need any of DriveWare's capabilities. However, it is a good idea to understand what it can do in case you eventually need to use it.

The Jasmine DriveWare application is located in the DriveWare Folder on your DirectDrive; it is also on the 800K *Jasmine DriveWare* floppy disk. The Jasmine cdev is located in the System Folder on your drive (with an extra copy in the DriveWare folder); it is also in the System Folder on the DriveWare floppy disk.

Capabilities

This section is a brief description of DriveWare's main features. Subsequent sections have step-by-step instructions for using DriveWare. Jasmine DriveWare is a powerful utility: it can format your drive, update the disk driver, inspect the disk media for defects, perform drive diagnostics, and create and manage multiple partitions.

Drive formatting

Formatting a hard disk drive erases all the files on it and prepares the surface for storing information. Your drive is formatted at the factory, but there may be times when you will need to format it again with Jasmine DriveWare. For example, you must reformat your drive if you want to create multiple partitions on it. (See the "Partition management" section for details on partitions.) For consistency, the factory format creates and allows only a single partition.

Formatting is the best way to return your drive to a pristine condition if a software malfunction has seriously corrupted information stored on the drive. Formatting will give you a "clean slate" onto which you can restore your files.

Driver updating

The driver is critical, invisible software that your Macintosh uses to control communications with the drive; the drive will not operate without it. A driver was written onto your drive at the factory so that the drive is ready to use once it is set up. A driver is also written onto the drive when you format it. There may be times when you will want to update (rewrite) the driver without formatting. Updating the driver does not destroy information on your disk.

For instance, a system crash can overwrite portions of the driver, thereby "corrupting" it. If your Macintosh does not start up properly from the drive, you can update the driver. (See Chapter 7, "Troubleshooting," in the Jasmine Hard Disk Encyclopedia for tips on when to try this.) Also, from time to time we make improvements in our driver. We then release new versions of Jasmine DriveWare so that you can update the driver on your drive to the latest version, without having to erase or reformat it.

Partitions and partition management

There are times when it can be advantageous to divide the large storage capacity of your drive into smaller pieces known as "partitions." You could, for example, partition a 100-megabyte drive into one 50-megabyte piece and two 25-megabyte pieces. Each partition is a fixed area on the disk and behaves like a smaller-capacity disk; each appears on the desktop as a separate icon (displaying the SCSI ID of the disk drive to which it belongs).



Tom's Partition

Although these partitions physically reside on the same drive, the Macintosh treats them as independent volumes that are unrelated to each other. For example, using the Find File desk accessory to search one partition for a file will not find a file located in another partition.

To make our terminology uniform, we will refer to an undivided drive as having a single partition; dividing it into smaller pieces produces multiple partitions. For more information on partitions, see See Chapter 2, "Folders and File Systems" of the Jasmine Hard Disk Encyclopedia.

The partitioning capabilities of Jasmine DriveWare are extensive. Before formatting the disk with the Custom Partitions option, consider how many partitions you wish to create. Although you can create as many partitions as you wish, you must specify the maximum number when you format. (For consistency, the factory formatting creates and allows only a single partition.) The size of a partition cannot be changed after it is created, and partitions can be destroyed in order to free disk space for new ones.

The mounting of partitions can be "automatic" — meaning that their icons will appear on the desktop at startup time — or "manual" — meaning that you must use Jasmine DriveWare or the Jasmine cdev to put their icons on the desktop. You can also determine which partition is the drive's "startup partition" (that is, which partition the Macintosh will scan for system-related files during startup). This is useful if there are sets of system files on several partitions. Jasmine DriveWare allows each partition to have a separate set of System files.

When a partition is created, it is "public," meaning that anyone can access it. For security, a partition can be made "private" so that it requires a password to be mounted. A partition can also be "locked" to prevent any information in it from being changed. (Locking is also known as write-protection.) You don't have to have multiple partitions to use these features; you can make a disk with a single partition private or locked.

Partitions are particularly useful if multiple users keep their files on the same drive. A private, manually-mounted partition can be created for every user so that each has access only to his or her own files. System-related files, applications, and other files to be shared by all users can be kept in a public, automatically-mounted, startup partition.

Judicial use of partitioning can improve the performance of a hard disk. The time it takes to find a particular sector within a partition is shorter than the seek time over the entire disk. Also, the Macintosh takes less time to update the directory and Desktop file of a partition because it has to manage fewer files at a time. If you have a lot of tiny files, each one will occupy less space on the disk if you place them in a small partition, because the minimum disk space a file occupies is related to the size of the volume it is in.

Another use of partitions is to allow different System versions and different file systems on a single drive. Since each partition is like a separate disk, it's safe to have a set of system files in each one if you want. (But do not put more than one System and Finder in the same partition.) If you have an application that works only under an older System version, you can create a separate partition for it.

The partitions created with Jasmine DriveWare follow the standard established by Apple, as described in Volume 5 of *Inside Macintosh*. (The Apple partitioning standard is also briefly described in the Jasmine Hard Disk Encyclopedia.) A/UX, Apple's implementation of the Unix operating system, also uses this standard.

Drive Diagnostics

The DriveWare diagnostic capabilities include inspecting the disk media and testing the basic functions of the hardware. These diagnostics can be useful if your drive does not appear to be operating properly.

The magnetic surface of a hard disk platter has imperfections, called media defects, which prevent information from being reliably stored in certain sectors of the disk. A small number of media defects is a normal occurrence, even on a new disk. Hard disk drives store a defect map noting the location of bad sectors so that it knows which ones not to use for data storage. Additional defects can appear in the media during the life of the drive.

Rough handling can also damage the disk surface. Normally Jasmine's proprietary driver software discovers new defects during the normal operation of the drive and will add the bad sectors to the defect list. You can also use Jasmine DriveWare to thoroughly inspect the entire disk for new defects and add them to the list.

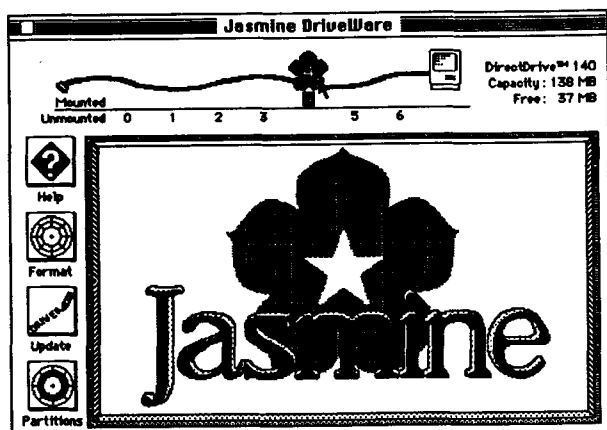
There are two ways to inspect the disk media. When you format you can perform an extremely thorough media inspection which scans each sector of the disk, writing different test patterns and then reading them. You can also inspect the disk without formatting it; this inspection reads the information already on the disk.

Jasmine DriveWare can also test whether your drive's hardware is functioning properly. An operating hard disk is an intricate interplay between hardware and software. If your drive is not operating correctly, the problem is often software-related, such as a corrupted driver, directory, or file. In other words, the drive hardware is probably fine, but some information stored on it isn't.

However, if you suspect that the drive hardware is not operating properly, you can use Jasmine DriveWare to run a series of diagnostic tests which will check the operations of the drive. If the drive passes all the tests, the hardware is unlikely to be the problem. If any of the tests fails, the disk may require servicing.

Using DriveWare

Jasmine DriveWare was designed to be powerful but simple to use. When you double-click its icon, the following window opens:



At the top is a pictorial representation of the SCSI bus, showing the devices with which the Macintosh can communicate. An icon appears for each device that is responding, above its SCSI ID number. (Recall from Chapter 2, "Using Other SCSI Devices with your DirectDrive," that SCSI IDs for Macintosh peripherals range from zero to six.) Your Macintosh, which has SCSI ID seven, appears on the far right; your drive should appear in the chain above the same number that is in the icon on the desktop.


The SCSI IDs are organized into two rows to indicate whether the device is mounted or unmounted. A mounted device is one which has icons for any of its partitions on the desktop. An unmounted device has no icon on the desktop.

If you have several SCSI devices, select the one you want to work with by clicking its icon. (Since DriveWare was designed specifically for Jasmine hardware, you will only be able to select Jasmine drives.) Information about the drive's type, capacity, and remaining free space (the space available for creating new partitions) is shown in the upper-right corner.

Along the left side of the window are four icons: Help, Format, Update, and Partitions. Click Help to bring up a help window, Format to format the selected drive, Update to update the disk driver on the selected drive, or Partitions to access the partition managing features.

Every icon has an equivalent menu item. However, some features, such as media inspection, drive testing, changing the master password, and partition locking and unlocking features are available only in the menus.

For step-by-step instructions refer to the following sections: "Formatting" and "Updating" refer to the functions of the corresponding icons. The "Managing partitions" section covers in detail each of the partition management features. The "Drive diagnostics" section discusses media inspection and hardware testing.

To get help while you are using Jasmine DriveWare, click the Help icon or choose Help from the  menu. A dialog box will appear; use the popup menu to select various topics. Click Thanks to return to the main window. When you are finished using DriveWare and want to return to the Finder, close the main DriveWare window or choose Quit from the File menu.

Formatting

You must decide *before* formatting the maximum number of partitions you will want on the drive. If you wish to create multiple partitions, you can skip to the following section "How to format your drive for multiple partitions." You will be able to create the partitions *after* formatting.

How to format your drive for a single partition

Remember that everything on your drive will be erased when you format it, so make sure your files are backed up regularly.

To format your drive in the conventional fashion as a single partition, follow these steps starting with your system turned off:

- Start up your Macintosh with the *Jasmine DriveWare* floppy disk.

You cannot format your drive if it is the current startup disk, since files on it are currently in use. Start up instead from the *Jasmine DriveWare* floppy disk, or any other startup disk which has a copy of Jasmine DriveWare and a System and Finder on it.

To start up from the *Jasmine DriveWare* disk, turn on the drive, insert the disk, and turn on the Macintosh. The icon for the *Jasmine DriveWare* disk should appear in the upper-right corner of the desktop — indicating that it is the current startup disk. Below it should appear the DirectDrive icon (or icons, if you have multiple partitions which are automatically mounted at startup).

- Drag the DirectDrive icons into the Trash if any are on the desktop.

As a precaution against accidentally formatting the wrong hard disk, Jasmine DriveWare will not format a drive if any of its icons are mounted on the desktop. You must first remove the icons from the desktop by dragging them to the Trash. (This is called "unmounting" the icons and makes their files temporarily inaccessible. Dragging a disk to the Trash does *not* erase any files on the disk. A floppy disk will be unmounted and ejected; a hard disk or partition — which can't be physically ejected — will be unmounted.)

- Double-click the Jasmine DriveWare icon.

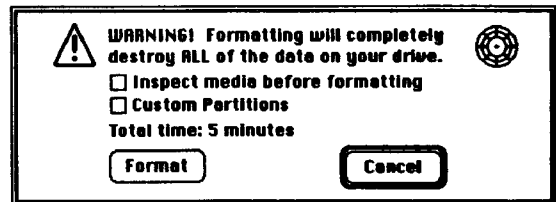
The main window opens, and Jasmine DriveWare scans the SCSI bus for connected devices. An icon appears for each SCSI device above its SCSI ID number. Remember that only unmounted SCSI devices can be formatted.

- Select the drive to format by clicking its icon on the SCSI bus.

The drive information appears in the upper-right corner.

- Click the Format icon or choose "Format drive..." from the File menu. This dialog box appears:

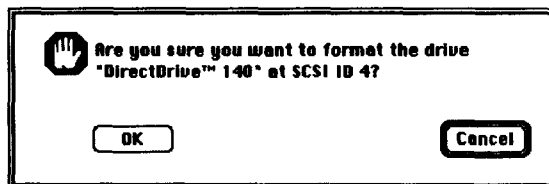
- Check the "Inspect media before formatting" box if you wish to perform a rigorous four-pass media inspection of the entire disk.



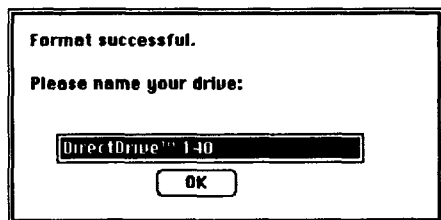
Any media defects found will be added to the defect list so that the sectors will not be used for data storage. The estimate for the total formatting time increases when this box is checked. The inspection can be a lengthy operation on a large drive, but it will increase the reliability of your data.

- Leave the Custom Partitions box unchecked. The custom partitions box allows you to create your own partitions on the drive. Please refer to the following section "How to format your drive for custom partitions" if you wish to do this.
- Click Format to proceed. You will be given one last chance to change your mind:

If you click OK, everything on your drive will be erased. All files in all partitions will be lost.



- Click OK if you are sure you want to proceed; *otherwise, click Cancel.*



A dialog will appear when the process is complete.

- Name the drive and click OK to return to the main window.

A single partition — automatic, public, and unlocked — occupying the entire drive has been created and mounted. (If you click the Partitions icon, you will see it in the partition list.) If you are using MultiFinder, you can see the partition's icon on the desktop.

- If you anticipate making your single partition a private one which requires a password, *you should set not only the partition password, but also the master password for the drive as described in the following section "How to set the master password."* *If you do not set the master password, others will be able to set the master password and access your private partition.* The master password can be the same as a partition password.
- Click the main window's close box or choose Quit from the File menu to return to the Finder.

If you encounter error messages while formatting, try again. Sometimes all goes well on the second attempt. If problems persist, call the Jasmine Technical support hotline at (415) 282-9555.

Immediately after your drive is formatted, the only file on it is the invisible Desktop file. In order to start up your Macintosh from the drive, remember that it must have a System and Finder on it.

If you backed up all of your files with a backup program, the System files will be restored when you restore the rest of the files. Otherwise, copy a set of System files from Apple's latest System release.

How to format your drive for custom partitions

Remember that everything on your drive will be erased when you format it, so make sure your files are backed up regularly.

To format your drive so that you can create your own partitions on it, follow these steps starting with your system turned off:

- Start up your Macintosh with the *Jasmine DriveWare* floppy disk.

You cannot format your drive if it is the current startup disk, since files on it are currently in use. Start up instead from the 800K *Jasmine DriveWare* disk, or from any other startup disk which has a copy of *Jasmine DriveWare* and a System and Finder on it.

To start up from the *Jasmine DriveWare* disk, turn on your drive, insert the disk, and then turn on the Macintosh. The icon for the disk should appear in the upper-right corner of the desktop — indicating that it is current startup disk. Below it should appear the DirectDrive icon (or icons, if you have multiple partitions which are automatically mounted at startup).

- Drag the DirectDrive icons into the Trash if any are on the desktop.

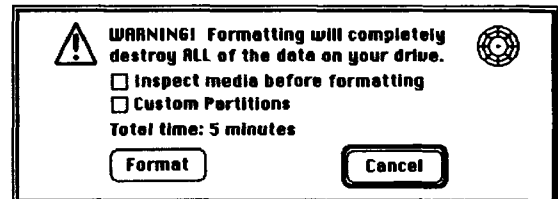
*As a precaution against accidentally formatting the wrong hard disk, Jasmine DriveWare will not format a drive if any of its icons are mounted on the desktop. You must first remove the icons from the desktop by dragging them to the Trash. (This is called “unmounting” the icons and makes their files temporarily inaccessible. Dragging a disk to the Trash does *not* erase any files on the disk. A floppy disk will be unmounted and ejected; a hard disk or partition — which can’t be physically ejected — will be unmounted.)*

- Double-click the *Jasmine DriveWare* icon.

The main window opens and *Jasmine DriveWare* scans the SCSI bus for connected devices. An icon appears for each SCSI device above its SCSI ID number. Remember that only unmounted drives can be formatted.

- Select the drive to format by clicking its icon on the SCSI bus. The drive information appears in the upper-right corner.

- Click the Format icon or choose “Format drive...” from the File menu. This dialog box appears:



- Check the “Inspect media before formatting” box if you wish to perform a rigorous four-pass media inspection of the disk.

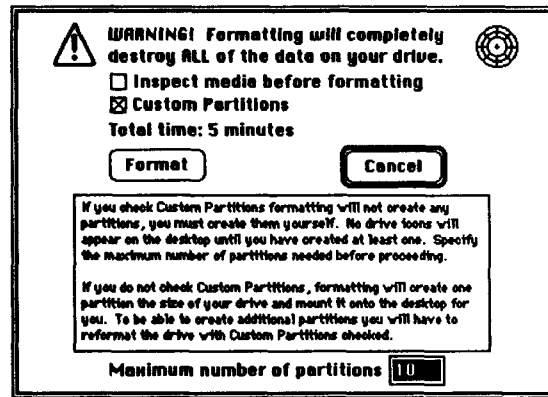
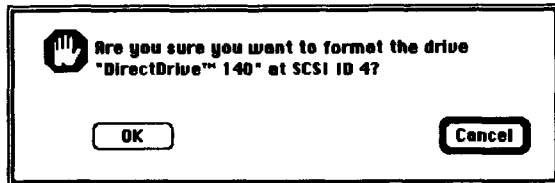
Any media defects found will be added to the defect list so that the sectors will not be used for data storage. The estimate for the total formatting time increases when this box is checked. The inspection can be a lengthy operation on a large drive, but it will increase the reliability of your data.

- Check the Custom Partitions box.

The dialog box will enlarge:

- Enter the maximum number of partitions to be allowed on the drive.
- Click Format to proceed.

You will be given one last chance to change your mind:

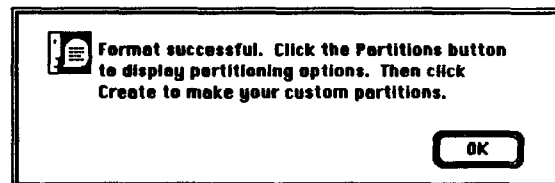


If you click OK, everything on your drive will be erased. All files in all partitions will be lost.

- Click OK if you are sure you want to proceed; *otherwise, click Cancel.*

This dialog appears when the process is complete.

- Click OK to return to the main DriveWare window.



No partitions currently exist on the drive. (If you click the Partitions icon, you will see that the partition list is empty.) You must create your own partitions as described in "How to create a partition." Until you create partitions no icons for the drive will appear on the desktop.

- If you anticipate making any of your partitions private ones which require passwords, *you should set not only the partition passwords, but also the master password for the drive as described in the following section "How to set the master password." If you do not set the master password, others will be able to set the master password and access your private partitions. The master password can be the same as a partition password.*
- Close the main window or choose Quit to return to the Finder.

If you encounter error messages while formatting, try again. Sometimes all goes well on the second attempt. If problems persist, call the Jasmine Technical Support hotline at (415) 282-9555.

Updating

To update the driver on your DirectDrive, follow these steps starting with your system turned off:

- Start up your Macintosh with the *Jasmine DriveWare* floppy disk.

To start up from the *Jasmine DriveWare* disk, turn on your DirectDrive, insert the disk, and then turn on the Macintosh. The icon for the floppy disk should appear in the upper-right corner of the desktop — indicating that it is the current startup disk. Below it should appear the DirectDrive icon (or icons, if you have multiple partitions which are automatically mounted at startup).

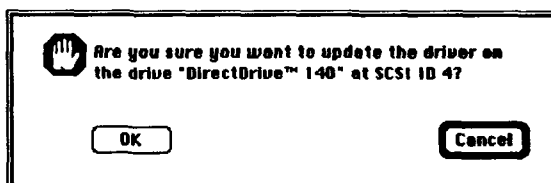
- Double-click the Jasmine DriveWare icon.

The main window opens and Jasmine DriveWare scans the SCSI bus for connected devices. An icon appears for each SCSI device above its ID number.

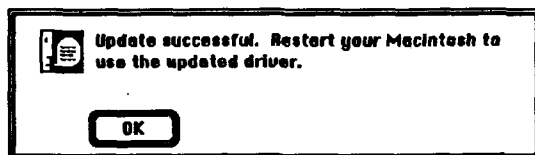
- When the main window appears, select the drive on which to update the driver by clicking its icon on the SCSI bus.

The drive information appears in the upper-right corner.

- Click the Update icon or choose "Update driver..." from the File menu. This dialog box appears, giving you a chance to change your mind:



- Click OK if you are sure you want to proceed; *otherwise, click Cancel.*



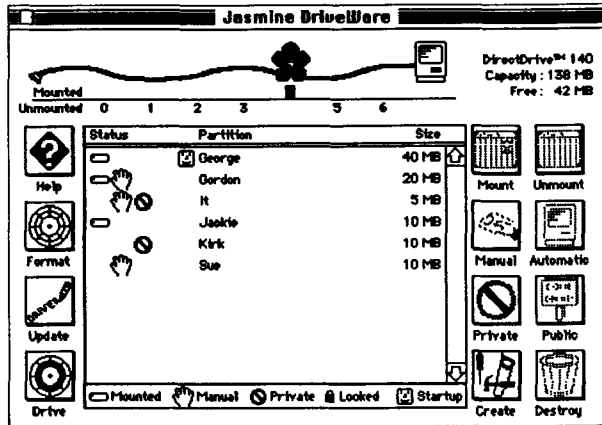
Installing the driver takes only a second. A dialog box appears when the process is complete.

- Click OK to return to the main window.
- Click the main window's close box or choose Quit from the File menu to return to the Finder.
- Choose Restart from the Special menu. This will restart your Macintosh using the updated driver. Until you restart, the previous driver is still in use.

If you encounter an error message while updating the driver, try again. Sometimes all goes well on the second attempt. If problems persist, call the Jasmine Technical Support hotline.

Managing partitions

If you want to use the features of Jasmine DriveWare that relate to individual partitions, click the Partitions icon. The Jasmine logo disappears to reveal an alphabetical list of the partitions on the selected drive, along with eight new icons for manipulating them:



You can create a new partition with the Create icon. The Mount, Unmount, Manual, Automatic, Private, Public, and Destroy icons affect the partitions which are selected in the partition list. Just click a partition in the list to select it before clicking one of these icons. (You can select more than one partition in the list by clicking and dragging or shift-clicking.)

The miniature icons before each partition name in the partition list indicate the current status of the partition, as explained by the legend at the bottom of the list:

- indicates that the partition is currently mounted on the desktop;
- indicates that it requires manual mounting;
- indicates that it is private;
- indicates that it is locked;
- indicates that it is the startup partition.

The Jasmine Control Panel document

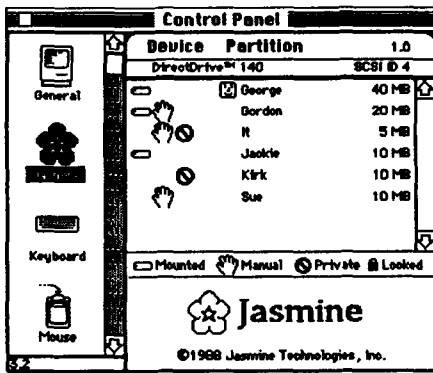
You can perform most of the partition-related functions of Jasmine DriveWare using the Jasmine Control Panel document ("cdev"), as well. The ability to manage partitions via the Control Panel desk accessory can be quite useful. For example, to open a file located in an unmounted partition, the cdev can mount the partition without quitting the current application.



Jasmine

The Jasmine cdev is located in the System Folder (with a spare copy in the DriveWare Folder) on your DirectDrive; it is also in the System Folder of the *Jasmine DriveWare* floppy disk. This cdev is similar to other Control Panel documents such as Mouse and Startup Device. In order for the Control Panel to find the Jasmine icon, it must reside in the System Folder of the current startup disk. Control Panel documents can only be opened through the Control Panel; if you double-click the Jasmine cdev icon in the Finder, DriveWare will open up instead.

To use the cdev, first choose Control Panel from the menu. Then click the Jasmine icon in the scrollable list on the left of the Control Panel. At the top of the Control Panel are two pull-down menus — Device and Partition.



If you have several Jasmine drives, choose one from the Device menu; the selected drive's type and its SCSI ID are displayed below the menus. The partition list shows the partitions on this drive. Select a partition in the list by clicking it. (You can select more than one by dragging or shift-clicking.) Then choose Mount, Unmount, Manual, Automatic, Private, Public, Lock, Unlock, or Startup from the Partition menu to act on the selected partition or partitions. These menu choices behave just like their counterparts in the Partition menu of Jasmine DriveWare, so you can refer to the following "How to..." sections for step-by-step details.

Please note that the Jasmine cdev cannot create or destroy partitions, format the drive, or update the driver; you will need to use DriveWare for those functions.

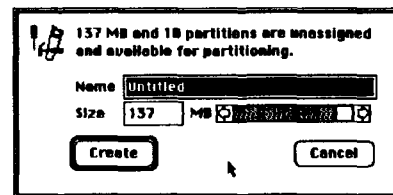
How to create a partition

Before you can create your own custom partitions, you must format the drive with the Custom Partitions option checked; as part of this process you specify the maximum number of partitions you will need. Ten is usually sufficient. (See the preceding section "How to format your drive for custom partitions.")

- Click the Create icon or choose Create from the Partition menu.

A dialog box appears:

- Name the partition and specify its size.



You cannot create a partition larger than the amount of free space on the drive. If the partition you are creating is the last one allowed (because it will bring the number of partitions to the maximum number you specified when the drive was formatted), its size must be equal to or less than the amount of free space on the drive.

- Click Create.

Creating a new partition generally takes only a few minutes unless existing partitions have to be moved on the drive to make room for the new one. Creating large partitions requires more time than small ones.

A newly created partition is automatic, public, and unlocked. It appears in the partition list with the name and size you specified. Notice that the amount of free space on the drive decreases by the size of the partition.

The partition is mounted as soon as it is created. If you are using MultiFinder, you can see the new partition's icon on the desktop.

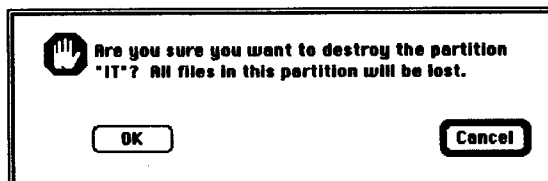
How to destroy a partition

Remember that everything in a partition will be erased when you destroy it, so make sure your files are backed up first.

For your protection, you can only destroy unmounted partitions. If the partition you want to destroy is mounted, first unmount it as described in the following section "How to manually unmount a partition".

- Select the partition in the list by clicking it.
- Click the Destroy icon or choose Destroy from the Partition menu.

If the partition is private, its password (or the drive's master password) will be requested. Then a warning appears, giving you a chance to change your mind:



If you click OK, all the information in the partition will be erased.

- Click OK if you are sure you want to proceed; *otherwise, click Cancel.*

The partition is destroyed immediately. Notice that the amount of free space on the drive has increased by the size of the partition.

How to manually mount a partition

- Select it in the partition list by clicking it.
- Click the Mount icon or choose Mount from the Partition menu.

Alternatively, you can simply double-click the partition in the list.

If the partition is private, its password (or the drive's master password) will be requested.

A miniature Hard Disk icon appears before the partition's name in the partition list to indicate that it is now mounted. If you are using MultiFinder, the partition's icon appears on the desktop.

How to manually unmount a partition

- Select it in the partition list by clicking it.

You cannot unmount a partition if it is the current startup partition (the one whose System is in use) or if it is the partition containing Jasmine DriveWare itself.

- Click the Unmount icon or choose Unmount from the Partition menu.

Alternatively, you can simply double-click the partition in the list.

The miniature Hard Disk icon before the partition's name in the partition list disappears to indicate that it is now unmounted. If you are using MultiFinder, the partition's icon disappears from the desktop.

If the partition is automatic, it will be mounted again the next time you start up. Remember that you can also unmount a partition in the Finder simply by dragging its icon into the Trash.

How to make a partition require manual mounting

Newly created partitions are set to be mounted automatically by the Macintosh at startup time. To make a partition require manual mounting:

- Select it in the partition list by clicking it.
- Click the Manual icon or choose Manual from the Partition menu.

If the partition is private, its password (or the drive's master password) will be requested.

A Hand icon appears before the partition's name in the partition list, indicating that it now must be manually mounted.

The next time you start up your Macintosh, the partition will not be visible on the desktop. To make the partition's icon appear on the desktop you must manually mount it with Jasmine DriveWare or the Jasmine "cdev."

How to make a partition mount automatically

Newly created partitions are set to be mounted automatically by the Macintosh at startup time. If you have set a partition for manual mounting and want to make it automatic again:

- Select it in the partition list by clicking it.
- Click the Automatic icon or choose Automatic from the Partition menu.

If the partition is private, its password (or the drive's master password) will be requested.

The Hand icon before the partition's name in the partition list disappears to indicate that it is now automatic.

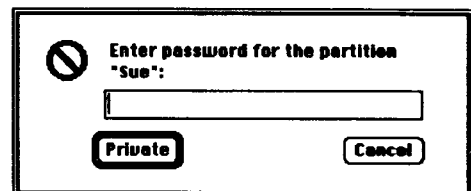
The next time you start up your Macintosh, it will attempt to mount this partition. If the partition is private, however, you will have to enter a password to actually mount it.

How to make a partition private

Newly created partitions are public. To make a public partition private:

- Select it in the partition list by clicking it.
- Click the Private icon or choose Private from the Partition menu.

- A dialog box appears, requesting you to enter the password that will be required for mounting this partition. For security, the password is not displayed as you type. Passwords are not case-sensitive, so "A" and "a" are the same.



- Enter a password and click Private. Another dialog box appears requesting you to retype the password to confirm it.
- Enter the password again and click Private. A No Entry icon appears before the partition's name in the partition list, indicating that it is now private.

The next time the partition is about to be mounted — whether automatically by the Macintosh at startup time or manually by you — a dialog box will appear requesting the password.

You must type either the password for this particular partition or the master password for the drive. If you can't remember either one, you will be unable to access any files in the partition, so *don't forget your passwords!*

A password will also be requested before a private partition can be destroyed, locked, unlocked, or made manual, automatic, or public.

If you have not yet set the master password for your drive, do it now as described in the following section "How to set the master password." Otherwise, others can set it and access your private partitions.

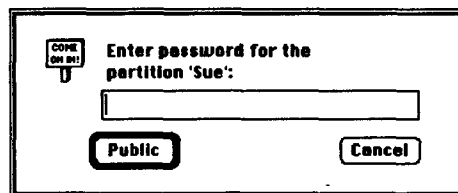
How to make a partition public_____

Newly created partitions are public. If you have made a partition private and want to make it public again:

- Select it in the partition list by clicking it.
- Click the Public icon or choose Public from the Partition menu.

A dialog box appears requesting the password for the partition.

- Enter either the password for this partition (or the master password for the drive), and click Public.



The No Entry icon before the partition's name in the partition list disappears, indicating that it is now public.

How to lock a partition_____

Newly created partitions are unlocked. To lock an unlocked partition:

- Select it in the partition list by clicking it.
- Choose Lock from the Partition menu. If the partition is private, its password (or the drive's master password) will be requested.

A Lock icon appears before the partition's name in the partition list, indicating that it is now locked. (Also, the Finder's Info window for the partition icon will have a checked Lock box.)

The Macintosh cannot write to a locked partition. No information in a locked partition can be added, removed, or changed. This is equivalent to write-protecting a floppy disk by opening the small window in the corner.

How to unlock a partition

Newly created partitions are unlocked. If you have locked a partition and want to unlock it again:

- Select it in the partition list by clicking it.
- Choose Unlock from the Partition menu.

If the partition is private, its password (or the drive's master password) will be requested.

The Lock icon before the partition's name in the partition list disappears, indicating that it is now unlocked. (Also, the Finder's Info window for the partition icon will have an unchecked Lock box.)

The Macintosh can write freely to an unlocked partition. Information in an unlocked partition can be added, removed, and changed.

How to make a partition the startup partition

To make a partition the startup partition:

- Select it in the partition list by clicking it.

You cannot select multiple partitions in the list; only one can be the startup partition.

- Choose Startup from the Partition menu.

A "Happy Mac" icon appears before the partition's name in the partition list, indicating that it is now the drive's startup partition. Of the partitions on this drive, this one will be searched first for a set of system files when your Macintosh starts up in the future. For a discussion of how your Macintosh finds a System and Finder to use when you have several disks, see Chapter 2, "Using Other SCSI Devices with your DirectDrive."

How to set the master password

When a password is requested to access a private partition, you can enter the drive's master password instead of the password assigned to that particular partition. This is convenient as a "backup" in case you forget a partition's password. It also allows you to access private partitions created by other users of your drive. The master password for your DirectDrive should be set each time it is formatted. Otherwise, others can set it and access your private partitions.

To set the master password for a drive:

- Select the drive by clicking its icon on the SCSI bus. The drive information appears in the upper-right corner.
- Choose "Change Master Password..." from the Special menu. A dialog appears requesting the current password.
- Enter the password and click OK. Another dialog appears requesting a new password.

- Enter the new password and click Change. Another dialog appears requesting you to confirm the new password.
- Enter the new password again and click Change.

The new master password is now in effect.

Drive diagnostics

Jasmine DriveWare has two useful diagnostic features: Inspecting the magnetic media on the disk and testing the normal functions of the DirectDrive hardware.

How to inspect the media

To check the surface of a disk for defect without formatting or changing any information on the drive:

- Select the drive by clicking its icon on the SCSI bus. The drive information appears in the upper-right corner.
- Choose "Inspect media..." from the Special menu. A dialog appears, indicating how long the inspection will take.
- Click OK to continue. When the inspection is complete, a dialog tells you how many new defective sectors were found and the total number that have been removed from use.
- Click OK to return to the main window.

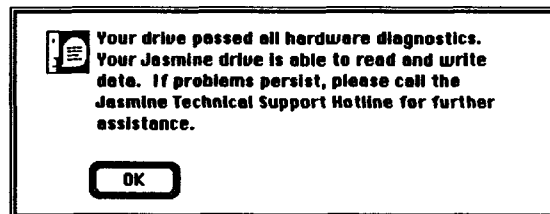
How to test your drive

To test the hardware of a drive:

- Select the drive by clicking its icon on the SCSI bus. The drive information appears in the upper-right corner.
- Choose "Test drive" from the Special menu.

The tests take less than one minute. If everything is OK, this dialog appears:

- Click OK to return to the main window.



If your DirectDrive passes all the tests, your hardware is probably operating properly. If any of the tests fail, your DirectDrive may require servicing; contact Jasmine Technical Support at (415) 282-9555.

Radio and Television Interference

The equipment described in this guide generates and uses radio frequency energy.

If it is not installed and used properly — that is, in strict accordance with these instructions — it may cause interference with radio and television reception.

This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of Federal Communications Commission (FCC) Rules. These rules are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

It is necessary to use shielded interconnect cables to insure compliance with FCC Class B limits.

If this equipment does cause interference to radio and television reception — which can be determined by turning the equipment off and on — you can try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna.
- Relocate the computer with respect to the receiver, or move the computer away from the receiver.
- Plug the computer into a different outlet, so that computer and receiver are on different branch circuits.

If necessary, consult your dealer, our technical support staff, or an experienced radio/television technician for additional suggestions.

You may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio/TV Interference Problems." This booklet is available from the U. S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

Software Upgrade Policy

Jasmine offers lifetime system software upgrades to the original purchaser of any **DirectDrive**. We reserve the right to charge reasonable fees for upgrade **distribution**. We will notify customers through mailings, during technical **support** calls, or on electronic bulletin board systems, including our own.

This upgrade policy applies to improved DirectDrive system software which allows **a user** to achieve current standards of performance. Upgrades do not include new **product** offerings such as hardware and applications that are related to the **DirectDrive** but sold separately.

Two-Year Limited Warranty

Jasmine Technologies, Inc. ("Jasmine") warrants Jasmine products to be free from defects in materials and workmanship for a period of two years from the date of original retail purchase. The purchaser's sole and exclusive remedy in the event of a breach of this warranty is expressly limited to repair or replacement, at Jasmine's option, of the defective product or, if repair or replacement is not possible, a refund of the purchase price. JASMINE EXPRESSLY DISCLAIMS ALL LIABILITY DUE TO DAMAGE TO ANY EQUIPMENT USED IN CONJUNCTION WITH THE PRODUCTS OR LOSS OF DATA OR INFORMATION IN THE EVENT OF A MALFUNCTION OF A PRODUCT. ANY MODIFICATIONS OR REPAIRS MADE TO JASMINE PRODUCTS BY ANYONE OTHER THAN JASMINE SHALL RENDER THIS WARRANTY VOID.

Any implied warranties, including those for merchantability and fitness for a particular purpose, are limited to the two year term of the limited warranty, and no warranties apply after that period. Some states do not allow limits on how long any implied warranty lasts, so this limitation may not apply to you.

Limitation of Liability

IN THE EVENT A PRODUCT IS NOT FREE FROM DEFECTS AS WARRANTED ABOVE, YOUR SOLE REMEDY SHALL BE REPAIR OR REPLACEMENT AS PROVIDED ABOVE. IN NO EVENT SHALL JASMINE OR ITS AUTHORIZED DEALER BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES, WHETHER IN CONTRACT OR TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY), SUCH AS BUT NOT LIMITED TO LOSS OF ANTICIPATED PROFITS OR BENEFITS RESULTING FROM THE USE OF THIS PRODUCT OR ANY BREACH OF ANY WARRANTY, EVEN IF JASMINE OR ITS AUTHORIZED DEALER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, OR FOR ANY CLAIM BY ANY OTHER PARTY. IN NO EVENT WILL JASMINE'S OR ITS AUTHORIZED DEALER'S LIABILITY FOR ANY DAMAGE CAUSED BY A PRODUCT EXCEED THE PRICE PAID FOR THE PRODUCT. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the exclusions or limitations in this paragraph may not apply to you. This warranty gives you specific legal rights, and you may also have other legal rights which vary from state to state.

Returning Your Drive for Service*

If you are experiencing a problem with your drive, first review Chapter 7, "Troubleshooting," in the Jasmine Hard Disk Encyclopedia, or use the Jasmine DriveWare diagnostic tests, which are on the Jasmine DriveWare floppy disk. If this does not help you solve the problem yourself, please follow these steps:

1. Contact Jasmine Technical Support at (415) 282-9555. We will help you diagnose the problem and determine whether your drive needs to be returned. Frequently we can help you over the telephone to quickly resolve the problem yourself. Please have your Jasmine serial number and your invoice or shipping order available.
2. If it is determined that your drive must be returned, a Return Merchandise Authorization (or RMA) number will be issued. *Do not return a drive to us without obtaining an RMA number first. We will not accept any unauthorized shipment.* Keep a record of this RMA number in case you need to inquire later about this transaction.
3. Write the RMA number and your name on a small strip of paper and tape it to the drive.
4. Pack the DirectDrive, the SCSI cable, and a copy of the invoice or shipping order *in the original shipping carton with all the original foam packaging.* Failure to use the original carton may result in damage to the drive — *damage for which you will be responsible.* Jasmine is not responsible for damage incurred in transit to us.
5. Write the RMA number and your name clearly on the original shipping container, next to the mailing label, so that our receiving department can identify the package when it arrives. *We will not accept any unidentified shipment.*
6. Ship the carton to Jasmine via air freight or a good, reliable surface carrier which handles *sensitive* freight. Some types of carriers have been found to mishandle sensitive freight. If you are uncertain about whether your intended return shipping method is approved, please *ask at the time you call for return authorization.*
7. Shipping charges to Jasmine are your responsibility. *We cannot accept COD shipments.* We recommend that you insure your DirectDrive with the carrier in order to protect your liability in case of damage.
8. Please ship the drive immediately after being authorized to do so, as the RMA number will only be valid for one week from the date of issuance.

*If your DirectDrive was purchased from a dealer, please contact your dealer for assistance.

Thirty-Day Money-Back Guarantee*

Jasmine values you as a customer, and we do our best to ensure that our products will meet your needs. We also recognize that sometimes a purchase turns out to be an inappropriate one. For this reason we offer a thirty-day money-back guarantee on any DirectDrive purchased directly from us. If you are not satisfied with your DirectDrive and wish for a full refund of your purchase price:

1. *The unit must be returned within thirty days from the shipping date.* Contact Jasmine Technical Support at (415) 282-9555. Please have your Jasmine serial number and your invoice or shipping order available.
2. Obtain a Return Merchandise Authorization (or "RMA") number from Technical Support. *Do not return a drive to us without obtaining an RMA number first. We will not accept any unauthorized shipment.* Keep a record of this RMA number in case you need to inquire later about this transaction.
3. Write the RMA number and your name on paper and tape it to the drive.
4. Pack the DirectDrive, all related materials (including cables, disks, and documentation), and a copy of the invoice or shipping order *in the original shipping carton with all the original foam packaging.* Failure to use the original carton may result in damage to the drive — *damage for which you will be responsible.* Jasmine is not responsible for damage incurred in transit to us.
5. Write the RMA number and your name clearly on the original shipping container, next to the mailing label, so that we can identify the package when it arrives. *We will not accept any unidentified shipment.*
6. Ship the carton to Jasmine via air freight or a good, reliable surface carrier which handles *sensitive* freight. Some types of carriers have been found to mishandle sensitive freight. If you are uncertain about whether your shipping method is approved, please *ask when you call for return authorization.*
7. Shipping charges to Jasmine are your responsibility. *We cannot accept COD shipments.* We recommend that you insure your DirectDrive with the carrier in order to protect your liability in case of damage.
8. Please ship the drive immediately after being authorized to do so, as the RMA number will only be valid for one week from the date of issuance.
9. When we receive your shipment, we will inspect the drive and container for damage. If we find any, we will notify you and subtract an appropriate amount from your refund to pay for restoring the damaged items to their original condition. *We are not liable for damage due to accident, misuse, neglect, improper repairs, or other reasons not related to defects in Jasmine's materials or workmanship.*

* Please note: Jasmine products purchased from dealers may not be returned directly to Jasmine under the terms of its thirty-day money-back guarantee, but rather are subject to the rules and procedures of the dealer from which the products were purchased.

 Jasmine Technologies, Inc. 1740 Army Street, San Francisco CA 94124 415-282-1111

Drive Safely.